Los Angeles County
Commission on HIV Health Services

PRACTICE GUIDELINES FOR THE TREATMENT OF HIV PATIENTS IN GENERAL DENTISTRY

A Supplement to the:

ADA 1995 publication, "Dental Management of the HIV-Infected Patient"

AAOM 2001 publication, "Clinician's Guide to Treatment of HIV-Infected Patients"

DAAC 2000 publication, "Principles of Oral Health Management for the HIV/AIDS Patient"

(3rd Edition)

Endorsed by
The Dental Steering Committee of the
Pacific AIDS Education and Training Center

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Foreword

We wish to thank Roseann Mulligan, DDS, MS, Chair, Dental Steering Committee Pacific AIDS Education and Training Center, for her help and guidance in collaborating to update this current revision of Practice Guidelines for the Treatment of HIV Patients in General Dentistry.

This document is a supplement to three published documents intended to address guidelines for the dental treatment of HIV-infected patients:

1. Dental Management of the HIV-infected Patient, Supplement to JADA, American Dental Association, Chicago, 1995.

2. Clinician's Guide to Treatment of HIV-infected Patients, Academy of Oral Medicine, 3rd Edition, Ed. Lauren L. Patton, Michael Glick, New York, 2002.

3. Principles of Oral Health Management for the HIV/AIDS Patient, A Course for Training the Oral Health Professional, Department of Human Services, Rockville, Maryland, 2001.

The Dental Steering Committee for the Pacific AIDS Education and Training Center approved the adoption of these documents as general guidelines for treatment of HIV-infected patients. The field of HIV therapy undergoes constant change. Therefore, the Los Angeles Commission on HIV Services request that the Dental Steering Committee of the Pacific AIDS Education & Training Center regularly update this supplement

Our knowledge of HIV manifestations, diagnosis and treatment will continue to grow and change over time. It is for this reason that dental care providers are encouraged to continually educate themselves about HIV disease and associated oral health treatment considerations.

Disclaimer

This executive summary is not intended to set any standards of care. It is intended to serve as a helpful source of up-to-date information to assist dental practitioners in making informed decisions about the care they provide. Dentists should always exercise their own professional judgment in any given situation, with any given patient. No information contained in this document should be construed as legal advice. Dentists must consult with their own lawyers for legal advice.

The Dental Steering Committee

These recommendations for treatment were assembled and reviewed by the Pacific AIDS Education & Training Center's Dental Steering Committee. The members of this committee are individuals professionally involved with ensuring the best possible dental care for HIV infected patients. This group includes faculty and administrators from dental schools, private practicing dentists, Pacific AIDS Education and Training Center faculty and staff, dental and medical clinic directors, and attorneys all involved in providing service to individuals who are HIV positive.

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What Viral Load and CD4 cell count means to the Dentist

The CD4 count and the viral load are the two laboratory markers that are used to monitor HIV infection. The CD4 cells are a subset of lymphocytes (synonyms are the T4 cell count or helper cells), which correlates with the patient's immune status. The normal value for adults is 750 – 1000 cells/ml. Patients with values less than 200 cells/ml are considered to have advanced immunosuppression. Those with a value of less than 50 cells/ml are considered to be in a very advanced stage and are usually symptomatic. Patients with low CD4 cell counts (less than 200 cells/ml are at risk for developing the diseases associated with AIDS (opportunistic infections and cancers.) Those with high counts (greater than 350 cell/ml) usually manifest no AIDS related illnesses.

The viral load is a test, which measures the amount of viral RNA in a milliliter of plasma. It represents how much the virus is replicating and the magnitude of the viral burden in the body. The viral load test is also used as a prognostic indicator: the higher the value, the higher the risk of a declining CD4 count and clinical progression. With lower values, one expects a slower progression of disease.

The current tests for viral load have a maximum value of 750,000 copies/ml (c/ml) and a minimum value is 20 – 50 c/ml. Below this value, the test is usually reported as "undetectable." The goal of therapy with antiviral drugs is to reduce the viral load to an "undetectable" value. The significance of an "undetectable" viral load is that very little viral replication is occurring. This means that there is little risk of the virus being able to mutate which can result in drug resistance and treatment failure. Reduction of the viral load to "undetectable" usually results in an improvement in the immune system (the CD4 cell count rises). Many patients are unable to reduce their viral load to undetectable. For these patients the goal is to reduce the viral load as much as possible.

The numeric value of the viral load ranges anywhere from 50 to 750,000 c/ml. In interpreting the viral load, it is important to know that patient fluctuation plus lab variation can be as much as three fold. So a value of 50,000 c/ml followed by a value of 70,000c/ml may be within the lab variation. But a value of 5,000 c/ml followed by a value of 50,000 c/ml shows a significant increase. This might indicate drug failure or that the patient has stopped taking medications.

For the dentist, the CD4 count indicates the immune status of the patient. The magnitude of the viral load is not an indicator to withhold dental treatment for the patient. High viral loads may be present in a patient with early asymptomatic disease, while low viral loads can be seen in very advanced patients on suppressive antiviral therapy. Knowledge of these markers can tell the dentist the general health of the patient and the risk of progression. The dentist can play an important part in reminding patients of the need for regular follow up and monitoring of these markers. It is recommended that the CD4 and viral load determinations be done at **least** every three months.

The dentist can also be instrumental in encouraging the patient to adhere to their medication regimen. The most common cause for drug failure is the patient taking their medications inconsistently. Missing just a few doses a month can result in the virus becoming resistant.

Antibiotic Prophylaxis

- For the HIV-infected patient, there are no data supporting the need for routine antibiotic coverage to prevent bacteremia or septicemia arising from dental procedures. In fact, patients with AIDS have shown a higher incidence of allergic reactions to antibiotics and other medications, so it may endanger the patient's health by over-prescribing antibiotics.

- Prophylactic antibiotics should not be prescribed routinely for the dental visit when the HIV infection is well controlled. Routine antibiotic coverage prior to procedures likely to cause bleeding and bacteremia is not recommended. Many patients at an advanced stage of HIV disease are already taking antibiotics to prevent opportunistic infection, so the dentist should not prescribe additional medications without contacting the physician.

If a patient with a neutrophil count below 500 cells/mm3 requires procedures likely to cause bleeding and bacteremia and is not already taking antibiotics for prophylaxis against opportunistic infections, the physician should be contacted and consulted regarding the need for antibiotic prophylaxis for dental procedures. Therefore, it is important to check with the physician.

- The regimen for prevention of bacterial endocarditis is the same in HIV patients as it is for non-infected patients. The American Heart Association guidelines for antibiotic prophylaxis should be followed as with any patient. Consult the patient's physician to determine the need for antibiotic prophylaxis for the patient with prosthetic joint replacements and intravascular devices.

- As with any patient, it is the standard of care to investigate all possible drug interactions before prescribing antibiotics to the HIV patients.

Medical Assessment

When to Contact the Patient's Physician

It is recommended that the dental provider consult with the patient's physician when additional information is needed to safely provide dental care. This is handled the same way as a consultation request for any other medical condition.

- It is the standard of care to ask the patient about any health conditions, and to collect information about the status of each condition.
- It is also the standard of care to ask the physician to confirm or provide more complete medical information to that already obtained from the patient if needed.
- When medical conditions are well controlled, it is up to the dental care provider based on his or her diagnosis of the patient's treatment needs to determine the need for a consultation with the patient's physician.
- The dental health provider should use the medical history and laboratory test results to decide if treatment should occur in a hospital setting. Such a decision should be made in consultation with the patient's physician.
- If a patient with ADVANCED HIV disease does not remember the most recent CD-4 count or Viral Load, the dentist should contact the physician for the correct information, and then determine whether to provide routine care or only emergency care at that time.
- If the patient reports a heart murmur but is not sure what kind, consult the patient's physician regarding the cause of the murmur and use the ADA Guidelines to help determine the need for prophylactic antibiotics to prevent bacterial endocarditis.
- If there is any doubt about the accuracy of the information provided by the patient (i.e., inconsistent or illogical answers to questions about medical history), the dentist should contact the patient's physician.
- If the patient's symptoms have changed, the dentist should consult with the physician to review the impending care and determine if treatment modifications are needed. For example, if there is liver or kidney involvement, the dentist may need to adjust the dosage of analgesics or antibiotics prescribed.
- The medical history should be updated on a regular basis to ensure all medical changes are noted. The medication list should also be updated as dosages and regimens are subject to change. Sometimes medications and dosages may need to be clarified with the physician of record.

- Thrombocytopenia, anemia and hepatobiliary diseases may occur in the course of HIV disease progression and with opportunistic infections. Laboratory tests prior to extensive surgical intervention should be obtained. These include complete blood count (CBC) {red blood cell count (RBC), white blood cell count (WBC), differential (Diff), platelet count (PLT), hemoglobin level (Hb), hematocrit (Hct), INR or prothrombin time (PT), and partial thromboplastin time (PTT)}. Although having access to laboratory tests for HIV positive patients is helpful to the dental provider, it is not always necessary for many routine procedures.

Treatment Considerations

Modifications of Dental Therapy

There is no justification to modify dental treatment based on the fact that the patient is infected with the HIV virus. However, if the patient's medical condition is compromised, treatment adjustments may be necessary as would be the case with any medically compromised patient. The dentist should determine what treatment modifications, if any, are necessary. **IT IS ESSENTIAL FOR ALL PRACTITIONERS TO UNDERSTAND THAT MOST HIV PATIENTS, EVEN IF SYMPTOMATIC, CAN BE TREATED SAFELY IN A TYPICAL DENTAL OFFICE OR CLINIC.**

- Bleeding tendencies may determine whether or not to recommend full mouth scaling and root planning or multiple extractions in one visit. A tooth-by tooth approach to assess bleeding tendencies would be one method to evaluate risk of hemorrhage.

- In severe cases, patients may be treated more safely in a hospital environment where blood transfusions are available.

- Deep block injections should be avoided in patients with a recent history or laboratory results indicating bleeding tendencies. In these patients intraligamentary or local infiltration may be an appropriate alternative.

- The ability to withstand treatment for an extended amount of time should be ascertained.

- The ability to return for sequential visits should be determined when a treatment plan is prepared or when a dental procedure is being initiated.

- A pre-treatment antibacterial mouth rinse will reduce intraoral bacterial load, especially for those patients with periodontal disease.

- A six-month recall schedule should be instituted to monitor any oral changes. If the patient is severely immunosuppressed i.e. (CD-4 count of <100), a shorter recall period such as a three-month interval should be considered.

- Patients exhibiting oral lesions should be assessed in a timely manner.

- When salivary hypofunction is present, the patient should be closely monitored for caries, periodontitis, soft tissue lesions and salivary gland disease.

- Fluoride supplements in the form of a rinse and/or toothpaste should be encouraged for those with increased caries and xerostomia.

- Oral hygiene is important in a medically compromised patient, as poor hygiene may be responsible for more rapid progression of oral disease. A proactive attitude and an emphasis on prevention should be encouraged. Dental treatment should also be prioritized based on the patient's health and circumstances (e.g. ability to tolerate long appointments, ability to perform oral hygiene etc.)

HIV Testing and Counseling

There are several serologic tests for the evaluation of HIV status. There are several serologic tests for the evaluation for HIV infection.

ELISA (Enzyme Linked Immunosorbent Assay) – This test is used to screen blood for HIV infection. It tests for antibodies against HIV. It is a very sensitive test. If the ELISA is negative, the patient is not infected with HIV. If it is positive, a confirmatory test must be done before the patient can be diagnosed as HIV infected.

WESTERN BLOT (WB) – This test is used to confirm HIV infection when the ELISA test is positive. It also tests for HIV antibodies, but is a more specific test. A patient must be ELISA and Western Blot positive for HIV infection to be diagnosed.

P24 ANTIGEN - this test detects an HIV protein. It will be positive in recent HIV infection, but this test has been mostly supplanted by the viral load test (see below).

HIV - POLYMERASE CHAIN REACTION (PCR) or Branched Chained DNA - Tests for the presence of HIV viral RNA in plasma. This is a quantitative test or qualitative. It is used for monitoring HIV infection.

**FALSE NEGATIVE HIV TESTS
The antibody tests (the ELISA and/or WB) may be falsely negative in a patient who has recently (within the last 6 months) been infected with HIV. The reason for this window period is that sufficient HIV antibodies may not yet been produced to be detected by these tests.

OraQuick—the FDA recently approved this test. The test is easy to use and produces reliable results in 20 minutes. At this time the law requires that a certified healthcare worker must administer it.

Pre- and post-test counseling of the patient is legally required before HIV testing in most U.S. states and territories. Testing may be done in a variety of settings, including the home, health centers, private physician offices, clinics, blood donation centers, and/or any other site that provides counseling.

Discrimination & Legal Issues

Referrals to a specialist or to a hospital setting must always be based on the clinical needs of the patient, not the ignorance or fear of the dentist, staff or other patients. The legal obligation of the dental provider is to refer patients for testing and follow-up. A Dentist may be held legally liable if a patient who has a lesion with unknown etiology needs referral in order to rule out possible HIV etiology, and the referral for testing and counseling is not done.

- As of July 1, 2002, HIV is now a reportable communicable disease in the State of California. It requires reporting to the State Office of AIDS, according to the California Code of Regulation, Title 17, Division 1, Chapter 4, Subchapter 1, Article 3.5, and "Reporting of Human Immunodeficiency Virus (HIV) Infection." AIDS was already a reportable disease. Health care providers who willfully neglect or refuse to report in accordance with the regulation are guilty of a misdemeanor under Health Safety Code section 100182 and may be subject to prosecution.

- The process involves a dual reporting system. The clinical laboratory and the health care provider report selected components of the Non-Name Code for the same case to the local health department HIV/AIDS Surveillance Program. Health care providers must report "confirmed HIV test results" to the local health department within seven calendar days. Regular mail is the only acceptable method of transferring data for reporting.

- The HIV reporting regulations require that a health care provider keep a cross referencing system on whom they report. It is not a requirement to keep the report form in the patient's medical record, though it may assist in case follow-up. The lab data on the case report asks for detectable viral loads, and "undetectable" is reportable as this does not mean that there is no viral load.

- There are no laws or regulations that require providers to inform or educate patients that confirmed cases of HIV are reported, by Non-Name Code. It is up to the provider to inform or not to inform their patients of HIV or any other communicable disease that requires reporting.

- It is required to report an HIV case in the following situations: if the medical records contain a positive test result, if the identity of the patient is known, and if the test was not anonymous. Only if a truly anonymous HIV test was performed are the results exempt from reporting. However, if that patient seeks medical care for HIV after testing, anonymity is relinquished.

- The community standard of practice requires that dentists be as familiar with basic HIV medical care as they are with other common medical conditions. A referral to other general practitioners because the dentist is ignorant about basic HIV medical care is a violation of community dental practice norms.

- It is a violation of the Americans with Disabilities Act, California law, and the law of some local jurisdictions, and of the ethical standards of the California Dental Association and the American Dental Association to refuse to care for patients with HIV because of fear of the risk of infection.

- In 1987, the United States Supreme Court in School Board vs. Arline, 480 U.S. 273 declared that discrimination based on an infectious risk to others was only justified when the risk was significant, despite reasonable efforts to accommodate the risk. Numerous studies have established that the risk of HIV infection to dental staff or other patients is remote, and reduced even further by universal precautions, which are required by law.

- In 1998, the Supreme Court in Bragdon v. Abbott, 524 U.S. 624, held that a dentist could not refuse to provide care to a patient with asymptomatic HIV.

- The 11th Circuit Court decision recently upheld the right of a dental clinic to fire an HIV positive dental hygienist because of the theoretical risk he posed to his patients, a decision the US Supreme Court refused to review in June. The Supreme Court's refusal means the ruling is limited to the States over which the 11th Circuit has jurisdiction (Alabama, Florida and Georgia) and has no effect in the 9th Circuit which covers Alaska, Arizona, California, Idaho, Montana, Nevada, Oregon, Washington, Guam and Hawaii.

- In CA post exposure protocol for any kind of exposure (e.g. needle stick, splash, puncture, bite, etc.) allows the dentist to request that the patient be tested for HIV. Repeated requests are not allowed should the patient deny the initial request because it is considered harassment and invasion of privacy. (Military and other states may have different restrictions and should be consulted.)

- Involuntary and mandatory HIV testing of the patient's blood can be court ordered. For specific circumstances see California HIV/AIDS Laws-2001

Please see http://www.dhs.ca.gov/ps/ooa/HIVReporting/HIVReporting.htm for further information.

Privacy

Many patients are reluctant to disclose HIV status to the dentist because they fear discrimination, even when they understand that full disclosure is essential for providing the best possible care.

- Dentists can establish an atmosphere in which patients feel comfortable in disclosing their status by indicating on the medical intake form that patients are not discriminated against on the basis of disability, and that all medical information disclosed is confidential.

- Dentists are responsible for training staff to ensure that *all* patient information is kept confidential and is in accordance with all state laws.

- A breach of an HIV patient's privacy is especially likely to subject a dentist to an award of damages to the patient, because the courts have recognized that wrongful disclosure of HIV information may very well result in discrimination by a patient's employer, landlord and/or friends.

- A thorough discussion of HIV privacy law, including practice tips for protecting the privacy of dental records, can be found in the Schulman article in the: *Journal of the California Dental Association* cited in the bibliography. A reprint of the article can be found at <http://www.cityofla.org/ATTY/aidsdent.htm>.

- Dentists should also refer to information available from the California Department of Health Services, Office of AIDS. Contact information can be found at www.dhs.cahwnet.gov/aids/ or call directly for AIDS information (916) 445-0553

- In the state of California, written consent of the patient is not required for exchange of treatment-related information between health care providers, as long as that information is obtained for the patient's benefit. However, many medical and dental offices are reluctant to provide lab data over the phone because of the especially sensitive nature of the information. You can more easily obtain medical information related to patient treatment if you offer to fax or mail a consent form such as the one provided. Please see appendix A

- Whether you obtain verbal or written consent to contact the patient's physician, it is strongly recommended that you make a note in the patient's chart including these statements:

    1. You have discussed the need to obtain medical information including HIV related lab results.
    2. You will keep this information private, provided that the HIV infection was reported to the Health Department
    3. The patient understands and gives permission to contact the physician.

Hepatitis B

Hepatitis B virus (HBV) is highly infectious. According to the November 2001 publication of the Organization for Safety and Asepsis Procedures (OSAP), the rate of transmission from an exposure is around 30% compared to 2% for the Hepatitis C virus (HCV). However, since universal precautions became routine and the introduction of the vaccine, no outbreaks of HBV have been reported.

Universal precautions are the standard procedure in the dental operatory as many patients and their healthcare providers may be unaware of their HBV status. It is important to consistently follow routine barrier precautions and safely handle needles and other sharps. Blood contains the highest HBV titer of all body fluids. It is the most important vehicle of transmission in the health-care setting. In the dental setting, the gingival sulcus has the greatest concentration of hepatitis B. The hepatitis B virus is also found in other body fluids, including saliva. However, saliva is not an efficient vehicle of transmission because it contains low quantities of infectious HBV. HBV has been demonstrated to survive in dried blood on surfaces for at least one week when at room temperature.

All healthcare providers need to be offered the hepatitis B vaccine by their employer, free of charge within 10 days of potentially being exposed to body fluids. (Title 8 Cal OSHA) The vaccine is indicated for people who have an occupational risk of exposure to blood or blood-contaminated body fluids. The employee has the right to refuse the hepatitis B vaccine. A hepatitis B declination statement must be signed and witnessed. The vaccine consists of three doses. The second dose is given 1-2 months after the first; and the third dose is 4-6 months after the first. A blood test to determine antibody titers should be done 30-60 days after the last dose. A titer lever >150 indicates that the person is immune for life. A person must have a titer >10 to be immune. Titers should be checked at various intervals to assure that the provider is still protected. If a person has a titer level <10 after immunization, the entire series must be repeated. If the person continues to have a low titer level, they are considered primary non-responders. If this person has an exposure, counseling is advised, as the person should get an immunoglobulin injection to help boost immunity.

Hepatitis B is 100 times more infectious than HIV. Healthcare providers had a prevalence of HBV infection approximately 10 times higher than the general population.

For more information go to: http://cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm.
Or http:// www.dirca.gov

Hepatitis C

According to the CDC (August 1, 2001), hepatitis C virus (HCV) is the most common chronic blood borne infection in the United States. HCV is spread in the dental office by percutaneous or mucosal exposures to infected blood. Injection drug users have the highest risk of HCV and account for 60% of cases. Sexual exposure accounts for approximately 15% of cases, whereas an additional 5% of exposures are from a combination of hemodialysis patients, those employed as a health care workers (HCW), or infants infected by their mother during birth. 20% have no known recognized source. Co-infection with HIV and HCV is common (50% to 90%) among HIV-infected injection drug users. Co-infection is also common among persons with hemophilia who received clotting factor concentrates before 1987.

It is important to note that percutaneous exposure to blood through tattooing; body piercing and acupuncture can transmit HCV. There are a number of serologic tests currently approved by the FDA that can measure antibodies to HCV. Though these tests cannot distinguish between acute, chronic or resolved infections.

Health care workers (HCWs) are at occupational risk for acquisition of HCV through a blood exposure. About 25-50% of HIV-infected individuals in the United States are also infected with hepatitis C virus. The latest Centers for Disease Control and Prevention and the U.S. Public Health Service/Infectious Disease Society of America recommendations are to screen all HIV-infected persons for HCV infection.

According to the CDC guidelines, post-exposure prophylaxis should not be used after occupational exposure to HCV. The guidelines (MMWR, June 29, 2001) recommendations are:

- Serologic testing of source patient
- Determination of baseline values of HCV for the person exposed (anti-HCV and ALT activity)
- Follow-up testing four-six months after exposure
- Confirmation of all anti-HCV results reported in enzyme immunoassays

In the United States the therapeutic regimens that have been approved for treatment of hepatitis C include: alpha interferon, pegylated interferon, and the combination therapy of interferon and ribavirin.

There are no current recommendations to restrict an individual who is infected with HCV from working. Universal precautions and strict aseptic techniques, which include hand washing, use of personal protective barriers and proper care in the use and disposal of needles and sharps, should be employed.

Medications in HIV

Knowledge of antiretroviral drugs is constantly growing, but it should be emphasized that long-term clinical data on drug interactions does not exist for many of the newer medications. Patients taking some of these drugs may suffer from photophobia, so that dental team can make them more comfortable by avoiding shining a dental light in the patient's eyes or offering dark glasses during the treatment. In addition, these patients are likely to suffer from xerostomia. Use of prescription medications such as pilocarpine (Salagen) and bethanechol as salivary gland stimulants should be considered. Excellent oral hygiene home care, topical fluoride and frequent hygiene recall visits, as well as nutritional counseling and saliva enhancers (sugarless gum, water, saliva substitutes) will be critical for prevention of periodontal disease and dental caries. Patients should also be assessed for consumption of unexpected sources of sugar such as over the counter medications including products like antacids (e.g. Tums, Rolaids); cough drops; suspensions (e.g. Nystatin); and, fungal troches (e.g. Mycelex). All of these may contribute to dental caries.

Currently, there are no known drug interactions between antiretrovirals and local anesthetics used in general dentistry. There are, however, several drugs that are prescribed by dentists or used in the office that may be contraindicated in patients taking antiretroviral medications. It is recommended that the dental care provider consult a reference that thoroughly discusses drug side effects and interactions prior to prescribing any medications. The HAART regimen can change rapidly and constant updating of the patient's medication list is necessary. As with most medications, HAART can also result in xerostomia.

See Appendix B—Antiretroviral Drugs

Post-Exposure Prophylaxis (PEP)

Most occupational HIV exposures do not result in the transmission of HIV. There have been no documented reports of transmission from a dentist to a patient. Documentation of the event and assessment of risk remain important. The person who is exposed should be referred immediately to a physician who can provide counseling, testing and appropriate medications. The interval within which PEP should be initiated for optimal efficacy is not known, though some animal studies suggest 24-36 hours. Dentists should balance the risk for infection against the potential toxicity of the agent(s) used when selecting a drug regimen.

For updated recommendations: see the U.S. Public Health Service published in June 2001.

Management of Occupational Blood Exposure

- Wash wounds and skin with soap and water
- Flush mucous membranes with water
- The incident should be reported to a supervisor if applicable and should be documented in a injury/exposure log

Report to a medical provider for testing, and access to post-exposure protocol

Basic Overview:

Determine whether high or low risk depending on source

- Low titer exposure
- Higher titer exposure

Medications

- Start within hours of exposure (under 24-48 hours)
- Triple therapy for 4 weeks

Baseline Labs to Monitor for Adverse Reactions

- Pregnancy test if applicable
- Complete Blood Count with differential and platelets
- Urinalysis
- Renal Function Tests (BUN and Serum Creatinine)
- Liver Function Tests (Aspartate and Alanine Aminotransferase, Alkaline Phosphatase, Total Bilirubin)

Monitor

- Baseline
- Weekly during protocol
- 6 weeks
- 3 months
- 6 months

The National Clinicians' Post-Exposure Prophylaxis Hotline is the PEP line. This is an excellent resource for questions and it is open 24 hours a day, 7 days a week. Their number is (888) 448-4911.

Nutritional Counseling

Because of certain oral conditions, the HIV patient may have difficulty consuming a balanced diet. The patient may suffer from changes in taste and decreased ability to chew and swallow because of drug-induced xerostomia. This can lead to GI upset and nausea, further inhibiting the intake of a balanced diet. It is the role of the dentist to recognize oral manifestations, which are associated with nutritional deficiencies that can cause intraoral manifestations such as vitamin B 12, folic acid, etc. Nutritional supplements or referral to the patient's physician or a registered dietitian may be necessary. Some areas to be aware of include:

- Poor oral intake of food or fluid
- Difficulty chewing and swallowing due to continuous mouth sores resulting from candidiasis, herpes simplex, apthous ulcers, etc.
- Severe dental caries
- Changes in perception of taste or smell
- Patient complaints of economic inability to meet caloric and nutrient needs

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"Public Health Service Guidelines for the Management of Health-Care Worker Exposures to HIV and Recommendations for Post exposure Prophylaxis", *MMWR*, V. 47(RR-7); 1-28, Centers for Disease Control and Prevention, US Department of Health and Human Services, May 15, 1998.

Schulman, David I., "The Dentist, HIV and the Law*: Duty to Treat, Need to Understand*." *CDA: Journal of the California Dental Association,* 21:9. 45-50 (Sept. 1993). Reprinted at <http://www.cityofla.org/ATTY/aidsdent.htm>.

Selected Websites for HIV/AIDS Information

Sites of Particular Interest to Dentists:

American Dental Association
http://www.ada.org/
Dental Alliance for AIDS Care (DAAC)
http://www.critpath.org/daac
HIV dent
http://www.hivdent.org/
National Institute of Dental & Craniofacial Research
http://www.nidr.nih.gov/
Oral AIDS Center at UCSF
http://itsa.ucsf.edu/~ucstoma/oac.html**University of Southern California AIDS Education and Training Center**
http://www.usc.edu/hsc/medicine/family_med/aetc/index.html
American Nursing Association Safe Needles Save Lives
www.needlestick.org
The Internet drug index
www.rxlist.com

Sites Commonly Used by Pacific AETC:

HIV-Insite (UCSF)
http://hivinsite.ucsf.edu/
Johns Hopkins AIDS Service
http://www.hopkins-aids.edu/
AIDS Clinical Trials Information Service
http://www.actis.org/
HIV/AIDS Prevention (CDC)
http://www.cdc.gov/nchstp/hiv_aids/dhap.htm
MMWR
http://www.cdc.gov/epo/mmwr/mmwr.html

Other helpful links:

AEGIS
http://www.aegis.com/
AIDS Treatment Information Service (ATIS)
http://www.hivatis.org
The Body - A Multimedia AIDS & HIV Information Resource
http.//www.thebody.com/
Centers for Disease Control National Prevention Information Network
http://www.cdcpin.org

Healthcare Clinical Care Options for HIV
http.//www.healthcg.com/
HIV/AIDS Information - University of Southern California
http.//www.usc.edu:80/hsc/resources/hiv_aids/

The HRSA/AIDS ETC National HIV Telephone Consultation Service (Warmline and PEP line
http://www.ucsf.edu/hivcntr
L.A. Public Health Organization
http://lapublichealth.org/aids/index.htm
National Guideline Clearinghouse
http://www.guideline.gov/VIEWS/summary

NPHRC - National Pediatric & Family HIV Resource Center
http://www.pedhivaids.org/

American Medical Association
http://www.ama-assn.org/

Appendix A

Sample Medical Release Form

Consent to Release Medical Information

I, _____, have discussed with my dentist, Dr. _____,
(Name of patient) (Name of dentist)
the relevance and need for current medical information, including facts about my HIV disease status. I understand my dentist's need for accurate and current information about the state of my HIV infection (for example: CD4 count, viral load, neutrophil count, names and prescribing information for medications). This information is needed because if my lab tests indicate a particular health condition, medication might be prescribed, or dental treatment may be done differently for my safety.

My dentist has also explained to me his/her understanding of the especially confidential nature of such information, and has indicated to me that all such information is protected in this clinic. In order to assist my dentist in providing good dental care to me, I hereby authorize Dr. _____ to disclose any and all medical information about my condition that may
(Physician's name)
be relevant to providing me with good dental care.

X_____ _____
Patient's signature Date

X_____ _____
Staff member (witness) Date

Witness: By signing this, I acknowledge that the signature above is the signature of the patient listed on this form, and that the patient appeared to be capable of understanding the document.

Cancellation

This consent is valid five years from the date it is signed, and I retain the right to revoke this permission at any time by signing the cancellation statement below or by verbally informing a representative of this dental office/clinic.

I wish to cancel this release. If cancellation is made by phone:

X_____ _____ X_____ _____
Signature of patient Date Signature of staff member Date

APPENDIX B

Known Antiretroviral Drug Interactions In General Dentistry

NOTE: The information here may serve as a guideline, but it only represents some of the known drugs and the adverse drug reactions *at this time*. New drug interactions are being discovered constantly, so dentists are encouraged to check the latest information before prescribing drugs. For more complete information about all drug interactions and contraindications including general anesthetics, please consult information provided by the drug manufacturer or a recently published drug reference. **Some good sources include: American Academy of Oral Medicine 2001, and Medical Management of HIV Infection 2000-2002. Latest updates can also be found on various websites-see Selected Websites for HIV/AIDS information as a guide.**

1. NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTI'S)

ABBREVIATION	BRAND NAME		CONTRAINDICATIONS
AZT	Zidovudine	Retrovir	Relative - Fluconazole increases AZT serum levels. Adverse reactions include anemia, neutropenia, leukopenia
ddI	Didanosine	Videx	Relative - Metronidazole and nitrous oxide may increase risk of peripheral neuropathy. Avoid Tetracycline as it may increase risk of Pancreatitis and absorption may be decreased. Separate dosing of other drugs 2 hours, esp. ketoconazole, dapsone, quinolones Adverse reactions include peripheral neuropathy, xerostomia, anemia, leukopenia
ddC	Zalcitabine	HIVID	Relative - Metronidazole may increase risk of peripheral neuropathy. Adverse reactions may include anemia, leukopenia, neutropenia, peripheral neuropathy, oral and esophageal ulcerations

d4T	Stavudine	Zerit	Relative - Use caution with other drugs that cause peripheral neuropathy, such as metronidazole. Adverse reactions may include peripheral neuropathy, anemia, neutropenia, thrombocytopenia
3TC	Lamivudine	Epivir	Avoid midazolam, astemizole, cisapride
AZT-3TC	Zid-Lam	Combivir	Adverse reactions may include anemia, neutropenia, leukopenia
ABC	Abacavir	Ziagen	Adverse reactions may include oral ulcerations

2. NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NNRTI'S)

ABBREVIATION	BRAND NAME		CONTRAINDICATIONS
NVP	Nevirapine	Viramune	Relative - Antagonizes Ketoconazole.
DLV	Delviradine	Rescriptor	Avoid co-administration with phenobarbital, ketoconazole, terfenadine, astemizole. Relative - May cause increase in plasma concentrations of clarithromycin, midazolam and sedative hypnotics (alprazolam, triazolam).
EFV	Efavirenz	Sustiva	Relative - May cause increase in plasma concentrations of midazolam, triazolam. Serum levels of EFV are increased by fluconazole.

3. PROTEASE INHIBITORS (PI'S)

ABBREVIATION	BRAND NAME		CONTRAINDICATIONS
SQV_{HGC}	Saquinavir	Invirase	Relative - Increased plasma levels of terfenadine, astemizole, clindamycin, itraconazole, triazolam. Increased metabolism of dexamethasone, phenobarbital. Unpredictable absorption of ketoconazole. Adverse reactions may include neutropenia, thrombocytopenia, paresthesia

SQV_{SGC}/FTV	Saquinavir	Fortovase	Relative - Increased plasma levels of terfenadine, astemizole, clindamycin, itraconazole, triazolam. Increased metabolism of dexamethasone, Phenobarbital Adverse reactions may include neutropenia, thrombocytopenia, paresthesia.
RTV	Ritonavir	Norvir	Contraindicated with sedative hypnotics, meperidine, piroxicam, propoxyphene, astemizole and terfenadine. Relative - Increased plasma levels of clarithromycin, fluconazole. Decreased plasma levels with dexamethasone, phenobarbital. May change levels of NSAID's, antihistamines, antifungals. Adverse reactions may include Perioral Paresthesia
IDV	Indinavir	Crixivan	Contraindicated with terfenadine, astemizole, triazolam, midazolam. Relative - Increased blood levels of clarithromycin. Reduction of dose when given with ketoconazole.
NLF	Nelfinavir	Viracept	Contraindicated with astemizole, triazolam or midazolam.
AMP	Amprenavir	Agenerase	Avoid midazolam, cisapride, astemizole, concomitant administration with azole antifungals, clarithromycin and erythromycin increases levels of both drugs. Adverse reactions may include dysgeusia

4. Combination anti-HIV (antiretroviral) drugs are now quite common

Combivir	Zidovudine + Lamivudine
Trizivir	Zidovudine + Lamivudine + Abacasvir
Kaletra	Lopinavir + Ritonavir

5. Drug not yet approved by FDA but approval maybe in coming year

T-20	Enfurvitide (Generic)

It is best to consult a dental drug reference before prescribing any medications to determine if there are any contraindications.